What is Claimed Is:

1. A method for determining the connected heating load of a building heated by a heating system, the heating system being fired by fuel in a waste gas-generating manner, and an outside temperature as well as an inside temperature occurring for the building, comprising the following steps:

determining the fuel power, inside temperature, and combustion air temperature over time in each case within an observation period of a certain observation duration;

measuring waste gas concentration parameters, waste gas temperature, and outside temperature over time in each case within the observation period;

ascertaining the efficiency of the heating system over time from waste gas concentration parameters, waste gas temperature, and combustion air temperature over time in each case within the observation period;

ascertaining the average outside temperature and average inside temperature within the observation period from the outside temperature and the inside temperature;

ascertaining an average heating performance produced at the average outside temperature from the fuel power over time and the efficiency of the heating system over time within the observation period;

ascertaining a maximum heating performance to be produced at a minimum outside temperature from the average heating performance, minimum outside temperature, average inside temperature, and average outside temperature within the observation period; and

ascertaining the connected heating load of the building from the maximum heating performance and the observation duration.

2. The method as recited in Claim 1,
wherein the oxygen concentration in the waste gas is measured as a waste gas concentration parameter.

3. The method as recited in Claim 1,
wherein the carbon dioxide concentration in the waste gas is measured and evaluated as a waste gas concentration parameter.

4. The method as recited in Claim 3,
wherein the efficiency η_K of the heating system is ascertained on the basis of a country-specific equation.

5. The method as recited in Claim 4,
wherein efficiency η_K of the heating system is ascertained on the basis of the equation $\eta_K = 1 - (T_{\text{waste gas, actual}} - T_{\text{air, actual}}) \cdot ((\text{CoeffA}_2/(21 - O_{2,\text{ meas}}) + \text{CoeffB}/100)$, $O_{2\text{meas}}$ representing the instantaneous oxygen concentration in the waste gas, $T_{\text{waste gas, actual}}$ the instantaneous waste gas temperature, $T_{\text{air, actual}}$ the instantaneous combustion air temperature and CoeffA_2, CoeffB fuel-dependent coefficients characterizing the fuel power.

6. The method as recited in Claim 5,
wherein oil or gas is provided as the fuel, a value between 0.63 and 0.68 is selected for the coefficient CoeffA_2, and a value between 0.007 and 0.011 is selected for the coefficient CoeffB.

7. The method as recited in Claim 4, 5 or 6,
wherein a correction value, which is dependent on the operating behavior of the heating system as well as its place and type of installation, is subtracted from the ascertained efficiency.

8. The method as recited in one of Claims 1 through 7,
wherein the average heating performance is ascertained from the product, integrated over the observation period, of fuel power over time and efficiency over time.

9. The method as recited in one of Claims 1 through 7,
wherein the average efficiency within the observation period and the average fuel power are ascertained for the purpose of ascertaining the average heating performance, the average efficiency and average fuel power subsequently being multiplied by each other as well as by the observation duration.

10. The method as recited in one of Claims 1 through 9,
wherein the maximum heating performance is calculated on the basis of the equation $Q_{heating, max} = Q_{heating, average} (T_{heating\ limit} - T_{outside, min}) / T_{heating\ limit} - T_{outside, average})$, $Q_{heating, max}$ representing the maximum heating performance, $Q_{heating, average}$ the average heating performance within the observation period, $T_{heating\ limit}$ the heating limit temperature, $T_{outside, min}$ the minimum outside temperature and $T_{outside, average}$ the average outside temperature, measured to determine the connected heating load within the observation period.

11. The method as recited in one of Claims 1 through 10,
wherein the connected heating load P is calculated on the basis of the equation $P = Q_{heating, max}/\tau$, $Q_{heating, max}$ representing the maximum heating performance and τ the observation duration.

12. The method as recited in one of Claims 1 through 11,
wherein the observation duration is 24 hours or an integral multiple of 24 hours.

13. The method as recited in Claim 12,
wherein the observation duration is 168 hours.

14. The method as recited in Claim 12,
wherein the observation duration is less than 24 hours, and at least a portion of the measured values is extrapolated to an observation duration of 24 hours.

15. The method as recited in one of the preceding claims,
wherein multiple measurements are carried out at different outside temperatures.

16. The method as recited in one of the preceding claims,
wherein the heating system has a hot process water supply, a correction value corresponding to the heating performance for the hot process water supply being subtracted from the average heating performance to determine the connected heating load, and this correction value being added again for calculating the maximum heating performance.

17. The method as recited in one of the preceding claims,
wherein the inside temperature is measured over time within the observation period, and the outside temperature is equated with the average inside temperature within the observation period to establish the heating limit.

18. The method as recited in one of the preceding claims,
wherein the instantaneous fuel flow is measured, and the fuel performance is ascertained therefrom within the observation period.

19. The method as recited in Claim 18,
wherein the fuel performance is ascertained according to the equation
$Q_{Br,\ actual} = H_U\ V_{BG}$, $Q_{Br,\ actual}$ representing the fuel performance, H_U the fuel-dependent heating value and V_{BG} the fuel flow.

20. The method as recited in one of the preceding claims,
wherein at least the waste gas temperature and outside temperature are measured synchronously and discretely at certain sampling times.

21. The method as recited in one of the preceding claims,
wherein the heating system is cycled, the variation over time and/or the instantaneous values of waste gas concentration parameters and/or waste gas temperature being used to determine whether or not the burner is currently in operation.

22. The method as recited in Claim 21,
wherein, within the observation period, the switch-on times of the burner having the instantaneous fuel power are linked to the fuel performance resulting for the observation period.

23. The method as recited in Claim 21 or 22,
wherein the heating system has at least two combustion stages having different fuel powers, the variation over time and/or the instantaneous values of waste gas concentration parameters and/or waste gas temperature being used to determine which of the at least two combustion stages is currently in operation and which fuel power must be currently applied in determining the connected heating load.

24. The method as recited in Claim 23,
wherein the different burner stages are taken into account in ascertaining the fuel power.

25. The method as recited in one of the preceding claims,
wherein the heating performance $Q_{d,\ actual}$ is determined within the observation period by subtracting the entire loss performance $Q_{v,\ d}$ from the fuel performance $Q_{Br,\ d}$.

26. The method as recited in Claim 25,
wherein a component of the loss performance $Q_{v,\ d}$ is the heatup loss performance Q_{loss} (KS) during the cold start phases of the heating system.

27. The method as recited in Claim 25 or 26,
wherein a component of the loss performance $Q_{v,\ d}$ is the heatup loss performance Q_{loss} (WS) during the warm start phases of the heating system.

28. The method as recited in Claim 25, 26 or 27,
wherein a component of the loss performance $Q_{v,\ d}$ is formed by standby losses and/or waste gas losses in the quasistationary range and/or radiation losses.

29. The method as recited in Claim 25, 26, 27 or 28,
wherein the loss performance $Q_{v,d}$ is the sum of the heatup loss performance Q_{loss} (KS) during a cold start and the heatup loss performance Q_{loss} (WS) during a warm start of the heating system.

30. The method as recited in one of the preceding claims,
wherein, to determine the efficiency η_K, radiation energy losses and/or convection energy losses and/or waste gas energy losses and/or energy losses are taken into account on the basis of uncombusted gases for calculating the average heating performance $Q_{d, stat}$ for the entire burner runtime in the quasistationary range.

31. The method as recited in one of the preceding claims,
wherein the burner power to be set is ascertained from the connected heating load and efficiency as an additional step.

32. The method as recited in one of preceding Claims 1 through 31,
wherein a portion of the measured values is measured discontinuously and combined with a portion of the measured values readable from the heating system itself.

33. The method as recited in one of Claims 1 through 31,
wherein a portion of the measured values is measured continuously and combined with a portion of the measured values readable from the heating system itself.

34. The method as recited in one of the preceding claims,
wherein the process water consumption quantity and/or the fuel flow is/are measured by flow sensors.

35. The method as recited in Claim 34,
wherein partial losses and/or correction values are calculated from the process water consumption quantity and/or fuel flow, in combination with the flow and return flow temperature variation of a tank filling circuit.

36. The method as recited in one of the preceding claims,
wherein the heat input into the building from external and internal heat sources is ascertained and taken into account.

37. The method as recited in Claim 36,
wherein heat input into the building achieved by the calorific value effect during heat generation is ascertained and taken into account by determining the amount of condensate.

38. The method as recited in Claim 37,
wherein the calorific value effect during heat generation is ascertained and taken into account by determining the variables of oxygen concentration, return flow temperature and waste gas temperature.

39. The method as recited in one of the preceding claims,
wherein the heating performance for process water is ascertained and taken into account while the heating system is turned off.

40. The method as recited in one of the preceding claims,
wherein the heating performance for process water heating within measurement cycle $Q_{d,w}$ is taken into account via the process water tank load by metrological detection of the tank filling times via the variation in flow and return flow temperatures of the tank filling circuit, the temperature rise in the tank via the difference in the return flow temperature per tank load, and linking the variables with the tank volume.

41. The method as recited in one of the preceding claims,
wherein the building-specific heating limit temperature is determined by determining the building characteristic using multiple measurements at different outside temperatures.

42. A system for carrying out the method as recited in one of Claims 1 through 41,
comprising

a data acquisition device for detecting fuel power, inside temperature and combustion air temperature over time in each case within an observation period of a certain observation duration;

a measuring device for measuring at least the waste gas concentration parameters, waste gas temperature and outside temperature over time in each case within the observation period; and

an analyzer unit for ascertaining the efficiency of the heating system over time from waste gas concentration parameters, waste gas temperature, and combustion air temperature over time in each case within the observation period; for ascertaining the average outside temperature within the observation period; for ascertaining an average heating performance produced at the average outside temperature from the fuel power over time and the efficiency of the heating system over time within the observation period; for ascertaining a maximum heating performance to be produced at a minimum outside temperature from the average heating performance, a minimum outside temperature, an average inside temperature and the average outside temperature within the observation period; for ascertaining the connected heating load of the heating system from the maximum heating performance and the observation duration.

43. The system as recited in Claim 42,
wherein the analyzer unit ascertains the burner power to be set from the connected heating load and the efficiency.

44. The system as recited in Claim 42 or 43,
wherein the measuring device and analyzer unit are spatially separated from each other and each have an interface for transmitting data.

45. The system as recited in Claim 42 or 43,
wherein the measuring device has a memory for buffering measured data.

46. The system as recited in Claim 44 or 45,
wherein the interfaces operate wirelessly.

47. The system as recited in one of Claims 42 through 45,
wherein multiple measuring devices are provided which transmit data to the analyzer unit, these measuring devices each having their own data memory for the purpose of collecting the data separately and buffering it for further evaluation.

48. The system as recited in one of Claims 42 through 47,
wherein at least the waste gas temperature and outside temperature are measured synchronously and discretely at certain sampling times.

49. A method for determining the degree of utilization of a heating system, the heating system being fired by fuel in a waste gas-generating manner, comprising the following steps:

determining the fuel power and combustion air temperature over time in each case within an observation period of a certain observation duration;

measuring waste gas concentration parameters and waste gas temperature over time in each case within the observation period; and

ascertaining the efficiency of the heating system over time from waste gas concentration parameters, waste gas temperature and combustion air temperature over time in each case within the observation period.